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# My NASA Data - Mini Lesson/Activity

## Sea Level Rise By Decade

### Grade Band

- 6-8
- 9-12

### Time

- 30 minutes

### Overview

For over 20 years, satellite instruments have measured the sea surface height of our ever-changing oceans. This video of images shows the complicated patterns of rising and falling ocean levels across the globe from 1993 to 2015.

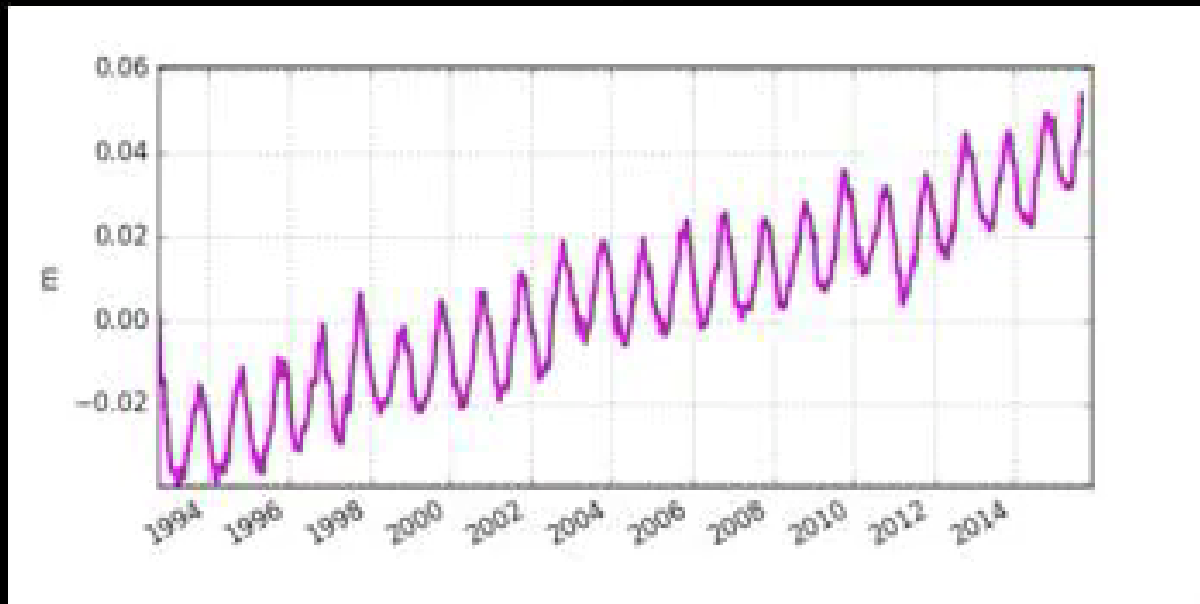
### Student Directions

For over 20 years, satellite instruments have measured the sea surface height of our ever-changing oceans. This line plot and video show the patterns of rising and falling ocean levels across the globe from the 1990's to the 2010's.

### Part A: Observe Patterns in a Line Plot

1. In the graph below, what is the unit of measure for sea surface height?
2. What is the general trend for sea surface height over the 20 years?
3. What years do you see the biggest range (the difference between high and low values) of sea surface height?

## Global Average Sea Level



Global

Average Sea Level in centimeters from 1994-2015

### Part B: Observing Data Values in an Animation

1. Watch the video below once to observe the general patterns you saw on the line plot.

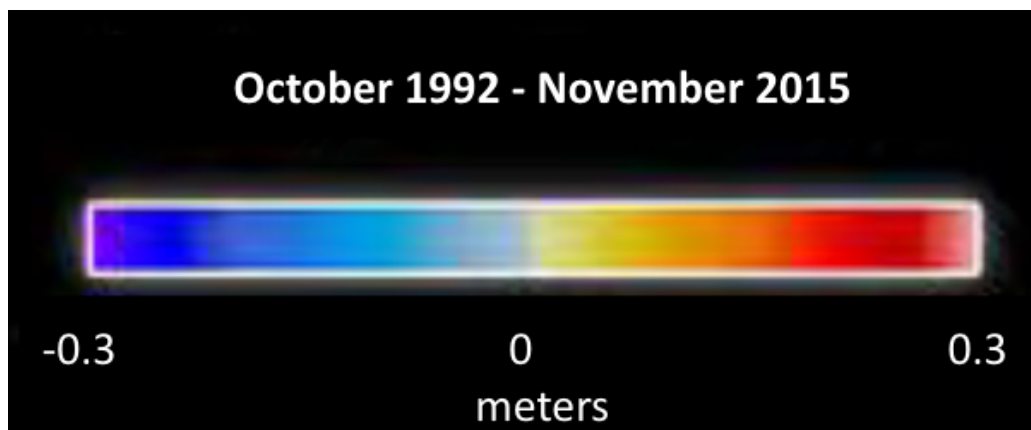
[Video: Rising seas, by decade](#)

Rising seas, by decade | <https://www.youtube.com/watch?v=4eXNWW3cXj8> | Source: NASA Climate Change

1. Analyze the color bar below. What do the blue areas represent, in general? White areas?

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Yellow to red areas?



Note: 1 decimeter

(dm) is equal to 0.1 meter.

2. Re-watch the animation, paying attention to the years that you identified as having the greatest range of sea surface height in Part A. Where on the map do you observe those changes?
3. Imagine that you are a journalist writing for a newspaper, covering a story about sea-level change. Write your own headline that describes the patterns you noticed in the line plot and the animation.

## Teacher Note

Teachers, these mini lessons/student activities are perfect "warm up" tasks that can be used as a hook, bell ringer, exit slip, etc. They take less than a class period to complete. Learn more on the "[My NASA Data What are Mini Lessons?](#)" page.

Teachers who are interested in receiving the answer key, please complete the [Teacher Key Request and Verification Form](#). We verify that requestors are teachers prior to sending access to the answer keys as we've had many students try to pass as teachers to gain access.

## NGSS Three Dimensional Learning

### NGSS Disciplinary Core Ideas

- ESS2A: Earth Materials and Systems
- ESS2C: The Role of Water in Earth's Surface Processes

### Crosscutting Concepts

- Scale, Proportion, and Quantity
- Systems and System Models
- Stability and Change

### Science and Engineering Practices

- Developing and Using Models
- Analyzing and Interpreting Data

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## Google Slide interactive Files

[Data Jigsaw Student Activity: Exploring Sea Level Rise with Others Slides](#)